



Volunteer Lake Assessment Program Individual Lake Reports

ISLAND POND, STODDARD, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	21,874	Max. Depth (m):	5.5	Flushing Rate (yr ⁻¹)	32.3
Surface Area (Ac.):	158	Mean Depth (m):	2.3	P Retention Coef:	0.28
Shore Length (m):	6,300	Volume (m ³):	1,668,500	Elevation (ft):	1281

TROPHIC CLASSIFICATION

Year	Trophic class
1993	MESOTROPHIC
2004	MESOTROPHIC

KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

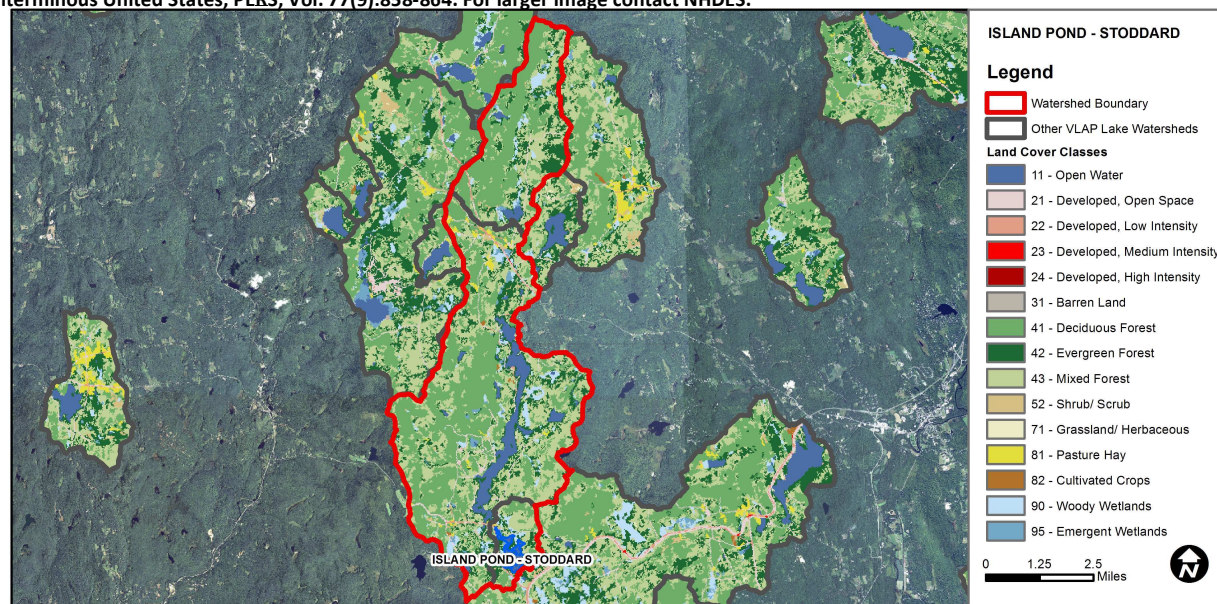
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Slightly Bad	>/=5 samples and median is >threshold.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Chlorophyll-a	Slightly Bad	>5 samples and median is > threshold.
Primary Contact Recreation	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

ISLAND POND - PUBLIC BEACH	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	5.84	Barren Land	0	Grassland/Herbaceous	0.05
Developed-Open Space	2.62	Deciduous Forest	38.21	Pasture Hay	0.91
Developed-Low Intensity	0.67	Evergreen Forest	15.24	Cultivated Crops	0.09
Developed-Medium Intensity	0.01	Mixed Forest	31.12	Woody Wetlands	3.58
Developed-High Intensity	0	Shrub-Scrub	0.57	Emergent Wetlands	0.91



VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

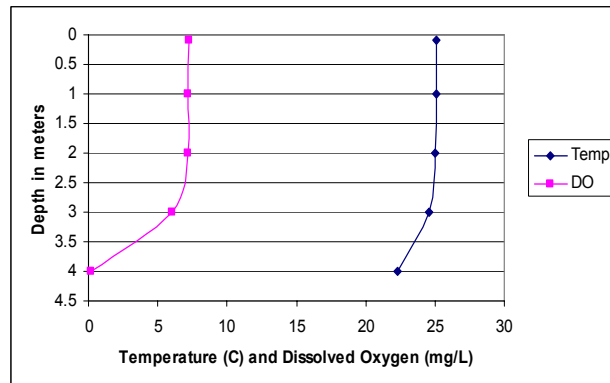
ISLAND POND, STODDARD, NH

2012 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphic)

- 🔥 **CHLOROPHYLL-A:** Chlorophyll levels were slightly elevated throughout the summer and greater than the NH lake median. Historical trend analysis indicates a significantly decreasing (improving) chlorophyll level since monitoring began.
- 🔥 **CONDUCTIVITY/CHLORIDE:** Conductivity was low and well below the NH lake median in the pond and tributaries.
- 🔥 **E. COLI:** E. coli levels were well below state standards for public beaches and surface waters.
- 🔥 **TOTAL PHOSPHORUS:** Phosphorus levels were relatively low at all stations. Historical trend analysis indicates a significantly decreasing (improving) epilimnetic (upper water layer) phosphorus level since monitoring began.
- 🔥 **TRANSPARENCY:** Transparency was average for the pond and historical trend analysis indicates a relatively stable transparency since monitoring began.
- 🔥 **TURBIDITY:** Turbidity levels were low throughout the summer.
- 🔥 **pH:** pH levels were lower than desirable and potentially critical to aquatic life.
- 🔥 **RECOMMENDED ACTIONS:** Chlorophyll-a and phosphorus levels are improving in the lake which is a great sign. We hope to see this continue! E. coli monitoring of the Town Beach is performed regularly during the summer months by DES' Beach Inspection Program. The extra E. coli sampling at the Town Beach is not necessary and can be discontinued if preferred. Keep up the great work!

Dissolved Oxygen & Temperature Profile



Station Name	Table 1. 2012 Average Water Quality Data for ISLAND POND								
	Alk.	Chlor-a	Cond.	E. Coli	Total P	Trans.		Turb.	pH
	mg/l	ug/l	uS/cm	#/100ml	ug/l	m		ntu	
						NVS	VS		
Inlet			27.5	17	11			0.59	6.26
Outlet			25.8	10	8			0.65	6.43
Town Beach				15					
Deep Epilimnion	1.77	6.60	25.6		8	3.03	3.32	0.75	6.27
Deep Hypolimnion			25.3		13			1.38	5.78

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

Alkalinity: 4.9 mg/L

Chlorophyll-a: 4.58 mg/m³

Conductivity: 40.0 uS/cm

Chloride: 4 mg/L

Total Phosphorus: 12 ug/L

Transparency: 3.2 m

pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

Chloride: < 230 mg/L (chronic)

E. coli: > 88 cts/100 mL – public beach

E. coli: > 406 cts/100 mL – surface waters

Turbidity: > 10 NTU above natural level

pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	Improving	Significantly decreasing chlorophyll-a.
Transparency	Stable	Data not significantly increasing or decreasing.
Phosphorus (epilimnion)	Improving	Significantly decreasing phosphorus.

This report was generated by the NH DES Volunteer Lake Assessment Program (VLAP). For more information contact:
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Historical Deep Spot Chlorophyll-a, Epilimnetic Total Phosphorus & Transparency Data

